Final: Thur 3-17-11
730-1030 pm
Bring ID

Review Session: Jared
Tue 3-15-11
800-945 pm
Thurman 4

Assignment: 10 pm Tue (no later!!)
3 Versions of Producer Consumer Java

- Monitor sync.
- Semaphore sync.
- java.util.concurrent contains many classes that handle sync. Automatically, like ArrayBlockingQueue.
**classic Deadlock**

```java
class A { // shared object
    foo() { /* ... bar() */ ... }
    bar( A a ) { /* do something with a */ }
}

In some other class:
A a1 = new A();
A a2 = new A();

Then sync. both a1 & a2 in some Thread class

```
Ex. 2 Philosophers:

F₂ → P₂₁

F₁

F₂

F₁
Ex. 3 Philosophers

\[ F_3 \times \emptyset \Rightarrow P_1 \Rightarrow F_1 \Rightarrow \mathbb{N} \times 2 \Rightarrow F_2 \]